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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,935	03/01/2002	Takanobu Takeda	KOJIM-448	4343
23599	7590	04/21/2004	EXAMINER	
MILLEN, WHITE, ZELANO & BRANIGAN, P.C. 2200 CLARENDON BLVD. SUITE 1400 ARLINGTON, VA 22201			LEE, SIN J	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/085,935

Applicant(s)

TAKEDA ET AL.

Examiner

Sin J. Lee

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-16, 18-20 and 22-36 is/are allowed.
- 6) ☒ Claim(s) 17 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 02032004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. In view of the amendment filed on December 30, 2003, the previous rejections on claims 1-6, 8-11, and 13-15 over Sato et al'705, the previous rejections on claims 1, 2, 5, 6, 8-11, and 13-15 over Fang et al'485, the previous rejections on claims 1, 3, 14, and 16 over Ohbayashi et al (JP'725), the previous rejection on claim 7 over Sato et al'705 in view of Houlihan et al'624, the previous rejection on claim 12 over Sato et al'705 in view of Schaedeli et al'657, the previous rejection on claim 7 over Fang et al'485 in view of Houlihan et al'624, and the previous rejection on claim 12 over Fang et al'485 in view of Schaedeli et al'657 are hereby withdrawn.

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

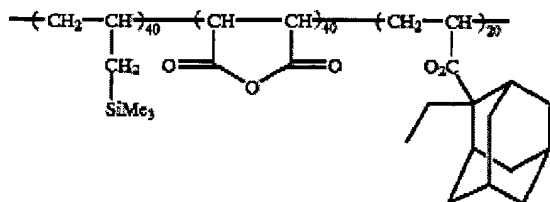
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Claim Rejections - 35 USC § 102***

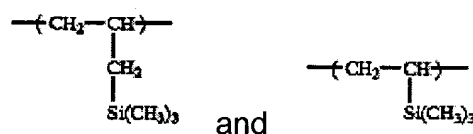
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3. Claims 17 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Sato et al (6,589,705 B1).

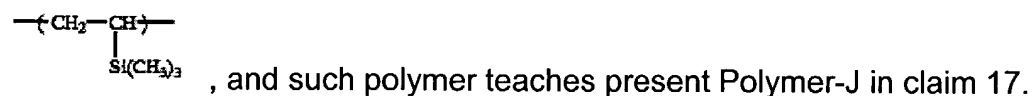
In col.62, lines 20-25, Sato teaches the following polymer;



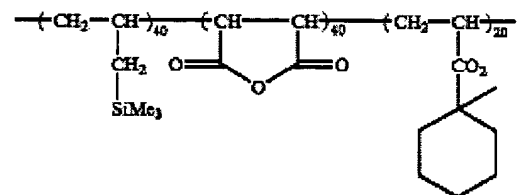
Sato teaches (see col.8, lines 1-5, lines 30-35) the equivalence of the following repeating units;



Since there are only 12 examples listed in col.8, lines 1-50, it is the Examiner's position that one of ordinary skill in the art would immediately envisage Sato's polymer in col.62, lines 20-25 in which the first repeating unit is replaced with

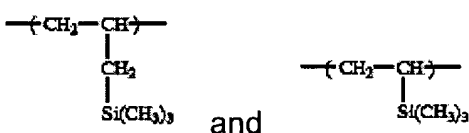


Also, in col.62, lines 1-10, Sato teaches the following polymer;

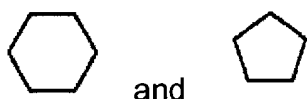


As discussed above, Sato teaches the equivalence of the following repeating units;

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Sato also teaches the equivalence of



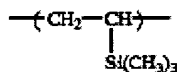
and

in col.13, lines 25-35, col.9, lines 56-58 as the alicyclic

hydrocarbon group in the formula (pl) shown in col.9, lines 18-24. Also, in the formula

(pl), R<sub>11</sub> can be a methyl group as well as an ethyl group (see col.9, lines 30-32).

Therefore, one of ordinary skill in the art would immediately envisage Sato's polymer in col.62, lines 1-10 in which the first repeating unit is replaced with



and in which the 1-methylcyclohexyl moiety in the third repeating unit is replaced with 1-ethylcyclopentyl moiety. Such polymer teaches present Polymer-G of claim 17.

Therefore, Sato teaches present invention of claim 17. Sato also teaches a positive working photoresist composition dissolved in propylene glycol monomethyl ether acetate (an organic solvent) containing his polymeric resin, a photoacid generator, and an organic basic compound (see Table 1 in col.63). Therefore, Sato teaches present invention of claim 21.

4. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by Ohbayashi et al (JP 2000-313725, Chemical Abstract 2000:803821 (English abstract of the Japanese document) and machine-assisted English translation of the Japanese document).

Ohbayashi teaches a fluoropolymer containing 15-85 mol% of fluoro olefin unit and 0.001-50 mole% unit of  $\text{CH}_2=\text{CHSiR}^1\text{R}^2\text{R}^3$  (in which  $\text{R}^1\text{-R}^3 = \text{H, Me, Et, Bu, Ph, CF}_3, \text{C}_2\text{H}_4\text{CF}_3, \text{CMe}_3, \text{OSiMe}_3$ ). See the Chemical Abstract. In [0009] of the machine-assisted English translation, Ohbayashi includes tetrafluoroethylene as one of four examples for the fluoro olefin. Based on these teachings, one of ordinary skill in the art would immediately envisage Ohbayashi's fluoropolymer containing tetrafluoroethylene unit and  $\text{CH}_2=\text{CHSiR}^1\text{R}^2\text{R}^3$  unit in which all of  $\text{R}^1\text{-R}^3$  is Me group, and such polymer teaches present Polymer-D of claim 17. Therefore, Ohbayashi teaches present invention of claim 17.

***Allowable Subject Matter***

5. Claims 1-16, 18-20, and 22-36 are allowed. None of the previously cited prior arts (see Paragraph 1 above) teaches or fairly suggests present silicon-containing polymer of claim 1 in which  $\text{R}^4$  is a silicon-containing group attached to the silicon atom through a silylalkylene linkage, nor the present polymer of claim 31 in which  $\text{R}^4$  is a silicon-containing group attached to the silicon atom through a silylalkylene linkage of the formula shown in claim 31. Also, none of the prior arts teaches or fairly suggests present silicon-containing polymer of the formula (2) shown in claim 36.

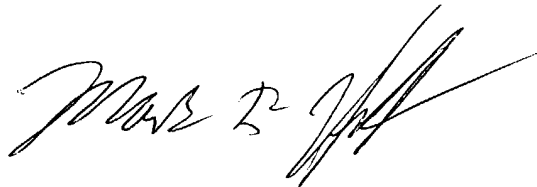
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is 571-272-1333. The examiner can normally be reached on Monday-Friday from 9:00 am EST to 5:30 pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff, can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*S. J. Lee*  
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April 15, 2004



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